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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,737	07/01/2003	Ko Masuda	AB-1324 US	5640

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EXAMINER

EDELL, JOSEPH F

ART UNIT PAPER NUMBER

3636

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/613,737

Applicant(s)

MASUDA ET AL.

Examiner

Joseph F. Edell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02/18/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 26 April 2005. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,556,160 to Mikami.

Mikami discloses a vehicle occupant restraint system that includes all the limitations recited in claims 1, 4, and 10. Mikami shows a restraint system having a restraining member (see Fig. 4) supported by a seat frame 10 so as to be movable between a retracted position and a deployed position, a crash sensor (see column 7, lines 47-51) with a crash prediction sensor and a control unit adapted to actuate the power actuator so as to raise the restraining member to an at least partly deployed position, a power actuator 44 capable of moving the restraining member from the retracted position to the deployed position via a power transmitting member 46 upon detection and/or prediction of a vehicle crash such that the restraining member cannot move from the deployed position to the retracted position by an external force to the

restraining member but can move from the retracted position to the deployed position and from the deployed position back to the retracted position by a force transmitted from the power actuator to the restraining member via the power transmitting member wherein the restraining member has a laterally extending member 40 located under a seat bottom 12 at a middle point of the seat bottom and a pair of arms pivotally supporting the laterally extending member.

4. Claims 1, 3, and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 01/45985 A1 to Specht et al.

Specht et al. disclose a vehicle occupant restraint system that includes all the limitations recited in claims 1, 3, and 9-11. Specht et al. show a vehicle occupant restraint system having a restraining member 8-11 (see Fig. 1) supported by a seat frame so as to be movable between a retracted position leaving a seat bottom in an undisturbed state and a deployed position (see page 3, lines 27-30 and page 7, line 26), a crash sensor with a crash prediction sensor 1,2 and a control unit 3 adapted to actuate the power actuator so as to raise the restraining member to an at least partly deployed position and a fully deployed position according to an output of the simple crash sensor, a simple crash sensor 2, and a power actuator 4-7 capable of moving the restraining member from the retracted position to the deployed position via a power transmitting member upon detection and/or prediction of a vehicle crash such that the restraining member cannot move from the deployed position to the retracted position by an external force to the restraining member but can move from the retracted position to the deployed position and from the deployed position back to the retracted position by a

force transmitted from the power actuator to the restraining member via the power transmitting member wherein the power transmission member has a reversible mechanical actuator 22 (see Fig. 8) adapted to raise the restraining member to a partly deployed position according to a signal from the crash prediction sensor and an irreversible pyrotechnical actuator 36 adapted to raise the restraining member from the partly deployed position to the fully deployed position according to a signal from the simple crash sensor.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikami in view of U.S. Patent No. 2,736,566 to Harl.

Mikami discloses a vehicle occupant restraint system that is basically the same as that recited in claim 3 except that the crash sensor lacks an additional simple crash sensor, as recited in the claim. Harl shows a system similar to that of Mikami wherein the system has a simple crash sensor (see column 3, lines 22-29) and a control unit (Fig. 4) that actuates a power actuator 8,9 (Fig. 1) to raise a restraining member 3 (Fig. 1) to a fully deployed position. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle

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occupant restraint system of Mikami such that the crash sensor has an additional simple crash sensor and the control unit actuates the power actuator to raise the restraining member to a partly deployed position and to the fully deployed position according to an output of the simple crash sensor, such as the system disclosed in Harl. One would have been motivated to make such a modification in view of the suggestion in Harl that the simple crash sensor may be connected to a bumper of a vehicle to prevent the forward movement of an occupant upon collision.

7. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikami in view of U.S. Patent No. 3,550,953 to Neale and U.S. Patent No. 6,352,312 B1 to Rees.

Mikami discloses a vehicle occupant restraint system that is basically the same as that recited in claims 5-7 except that the power transmitting member lacks a threaded rod, nut, gear box, and pivoting arms configuration, as recited in the claims. See Figures 4 and 5 of Mikami for the teaching that the power transmitting member employs an electric motor 46 (Fig. 4) with an output shaft extending laterally under the seat bottom, transmitting gear 48 (Fig. 4), and sector gear 44 (Fig. 4). Neale shows a seat bottom similar to that of Mikami wherein the seat bottom has a seat frame 7 (Fig. 5), a restraining member 1 (Fig. 5), a power actuator (Fig. 5) moving the restraining member from a retracted position (Fig. 1) to a deployed position (Fig. 3) via a power transmitting member (Fig. 5) that includes a threaded rod 30 (Fig. 5) extending in a fore-and-aft direction, a movable member 8 (Fig. 5) supporting the threaded rod and guided by the seat frame to be moveable in a fore-and-aft direction, a nut 28 (Fig. 7) attached

to the seat frame and threadably engaging the threaded rod, and arms 11 (Fig. 7) pivotally supported by the movable member and each provided with an arcuate slot (Fig. 7) receiving a pin 12 (Fig. 7) attached to the seat frame. Rees shows a seat bottom similar to that of Mikami wherein the seat bottom has a power actuator (Fig. 1) with a threaded rack 46 (Fig. 3) and movable member (Fig. 1) with a gear box 44 (Fig. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle occupant restraint system of Mikami such that the power transmitting member has a threaded rod extending in a fore-and-aft direction, a movable member supporting the threaded rod and guided by the seat frame to be moveable in a fore-and-aft direction, a nut attached to the seat frame and threadably engaging the threaded rod, arms pivotally supported by the movable member and each provided with an arcuate slot receiving a pin attached to the seat frame, and the moveable member comprises a gear box, such as the seat bottom disclosed in Neale. One would have been motivated to make such a modification in view of the suggestion in Neale that the moveable member, threaded rod, and nut configuration allows for independent, incremental adjustment of front portions of the seat member. One would have been motivated to make such a modification in view of the suggestion in Rees that the gear box and threaded rack configuration provides motorized fore-and-aft movement of seat parts.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikami in view of Neale and Rees as applied to claims 5-7 above, and further in view of U.S. Patent No. 6,450,573 B1 to Yamaguchi et al.

Mikami discloses a vehicle occupant restraint system that is basically the same as that recited in claim 8 except that power actuator lacks a pyrotechnical actuator and the nut lacks a split piece, as recited in the claim. Yamaguchi et al. show a system similar to that of Mikami wherein the system has a threaded rod 9b (Fig. 3) connected to a restraining member 4 (Fig. 2), a power actuator (Fig. 3) with a pyrotechnical actuator 10 (Fig. 3) adapted to move the threaded rod in a direction to deploy the restraining member, and a lock 14 (Fig. 3) with a split piece 16 (Fig. 3) normally urged by a spring member 17 (Fig. 3) against a slanted surface 15b (Fig. 3) of a guide member 15 (Fig. 3) to engaged the threaded rod and is allowed to move freely with respect to the threaded rod when the threaded rod is actuated by the pyrotechnical actuator. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle occupant restraint system of Mikami such that the power actuator has a pyrotechnical actuator adapted to move the threaded rod in a direction to deploy the restraining member while the electric motor is adapted to turn the rod, and the nut has a split piece normally urged by a spring member against a slanted surface of a guide member to threadably engage the threaded rod when the threaded rod is turned in a normal direction and is allowed to move freely with respect to the threaded rod when the threaded rod is actuated by the pyrotechnical actuator in the direction to deploy the restraining member, such as the system disclosed in Yamaguchi et al. One would have been motivated to make such a modification in view of the suggestion in Yamaguchi et al. that the pyrotechnical actuator and lock configuration provides a compact, lightweight design that has high mechanical strength.



***Response to Arguments***

9. Applicant's arguments filed 26 April 2005 have been fully considered but they are not persuasive. Applicant argues that Mikami fails to disclose a crash sensor.

Examiner reasonably interpret a sensor as any device that responds to a physical stimulus (as heat, light, sound, pressure, magnetism, or a particular motion) and transmits a resulting impulse (as for measurement or operating a control), as defined by *Merriam-Webster's Collegiate Dictionary, Tenth Edition*. Therefore, the excitation switch of Mikami meets this limitation as it is a device that responds to a physical stimulation, i.e. actuation by a crew member, and transmits a resulting impulse to the controller for raising the restraining member prior to the vehicle crash. With respect to Applicant's arguments regarding the rejection of claim 3 as being unpatentable over Mikami in view of Hartl, Applicant attempts to make a distinction between a partly deployed position of the restraining member versus a fully deployed position of the restraining member. Initially, Examiner argues that any restraining member moving to a fully deployed position must inherently also move to a partly deployed position during its normal range of motion even if this position location is only temporary. In claim 3, the limitations do not relate the simple crash member to the partly deployed position of the restraining member. Hartl teaches a control member with a simple crash sensor that raises the restraining member to a fully deployed position. Therefore, Mikami in view of Hartl meets the limitations of claim 3 because the control unit of Mikami is adapted to actuate the power actuator to raise the restraining member to a partly deployed position, even if just temporarily, according to the output of the crash prediction sensor of the

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excitation switch, and Hartl teaches a simple crash sensor on the bumper of a vehicle send an output to the control unit to raise the restraining member to a fully deployed position. Please note that the rejection of claims 1 and 2 as being anticipated by Yamamoto was withdrawn because Yamamoto fails to establish that the power actuator would be capable of transmitting a force to move the restraining member from the deployed position to the retracted position. The rejections under 35 USC 103(a) drawn toward claims 5-8 were argued solely on the premise that the cited art does not teach or suggest the vehicle occupant restraint system recited in claims 1, 3, and 4, and as a result the above 35 USC 103(a) rejections of claims 5-8 remain.

Upon consideration of the Applicant's arguments, Examiner maintains the rejections of claims 1 and 3-8 and rejects new claims 9-11.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph F. Edell whose telephone number is (571) 272-6858. The examiner can normally be reached on Mon.-Fri. 8:30am-5:00pm.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JE  
July 9, 2005

  
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